feeding the mixed gas into a reaction tube of a reformer, thereby permitting mainly a steam reforming reaction to take place in the mixed gas,

wherein the molar ratio between methane (CH_4) in the natural gas and carbon dioxide (CO_2) falls within the range of CH_4:CO_2 = 1 : 1 to 1 : 3 on the occasion of adding steam and carbon dioxide to the natural gas.

5. (Amended) The method of manufacturing a synthesis gas according to claim 1, wherein the hydrogen sulfide adsorbent is at least one oxide selected from the group consisting of triiron tetraoxide (Fe_3O_4) and zinc oxide (ZnO).